



UNITED STATES PATENT AND TRADEMARK OFFICE

[Handwritten signature]
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,172	02/27/2002	Steven Shawn Smith	010886.00670	1372
22907	7590	08/11/2006		EXAMINER
BANNER & WITCOFF 1001 G STREET N W SUITE 1100 WASHINGTON, DC 20001			PENDLETON, BRIAN T	
			ART UNIT	PAPER NUMBER
			2615	

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/085,172	SMITH, STEVEN SHAWN	
	Examiner	Art Unit	
	Brian T. Pendleton	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 May 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-5,7-18 and 20-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-5,7-18 and 20-41 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 26 December 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-5, 7-18, and 20-41 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, 8, 9, 14-16, 18, 20, 23-27, 29, 30, 34, 36-39 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Koroljow et al, US Patent 6,154,552. Koroljow et al teach an adaptive beamformer comprising a plurality of transducers 12, a beamformer(step S106) for computing a plurality of beams, a chose fixed input beam (beam 1, see figure 6 and column 6 lines 7-13), and algorithm block (step S110) for superpositioning a main beam (beam 1) with a steerable beam steered at an angle from the axis of the main beam (beams 2-5) and producing a signal of narrowed beamwidth.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 7, 21, 22, 31-33, 35, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koroljow. Koroljow does not disclose multiple desired main beams and narrowed multiple desired main beams. In re Harza 274 F.2d 669, 124 USPQ 378 dictates that no patentable weight be assigned to a duplication of parts. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide multiple desire main beams and narrowing them for the purpose of supplying a plurality of desired signals. Per claims 35 and 40, Examiner takes Official Notice that it was well known to accomplish signal processing in the analog or digital domain.

Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koroljow in view of Ohkubo et al. Koroljow does not disclose multiple sound paths to the transducer wherein the multiple sound paths create multiple signals corresponding to the multiple sound paths and wherein the multiple sound paths create a phase shift in the multiple signals. Ohkubo discloses a microphone device in figure 12 having a transducer 25 with multiple sound paths 21, 22, and 23, multiple signals, and with a phase shift among the multiple signals. As disclosed in column 8 line 65 – column 9 line 2, it was possible to create a directional signal by using only one microphone. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute the microphone device of Ohkubo for the plurality of microphones 30 in Koroljow for the purpose of picking up sound signals with directionality with less equipment. Claim 10 is met. Per claims 11-13, the sound paths 21-23 meet the limitations.

Claims 17 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koroljow in view of Marash. Koroljow does not disclose that the step of determining a location of a desired main is by multidimensional Fourier transforms. Marash discloses the use of

multidimensional Fourier transforms to determine the “look” direction main beam. Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to use the technique of Marash in the invention of Koroljow for the purpose of providing an improved main beam.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stewart, US Patent 6,535,610.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (571) 272-7527. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian T. Pendleton
Primary Examiner
Art Unit 2615



btp